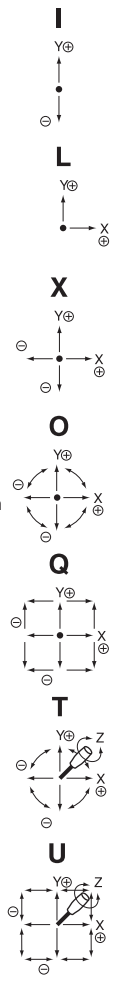
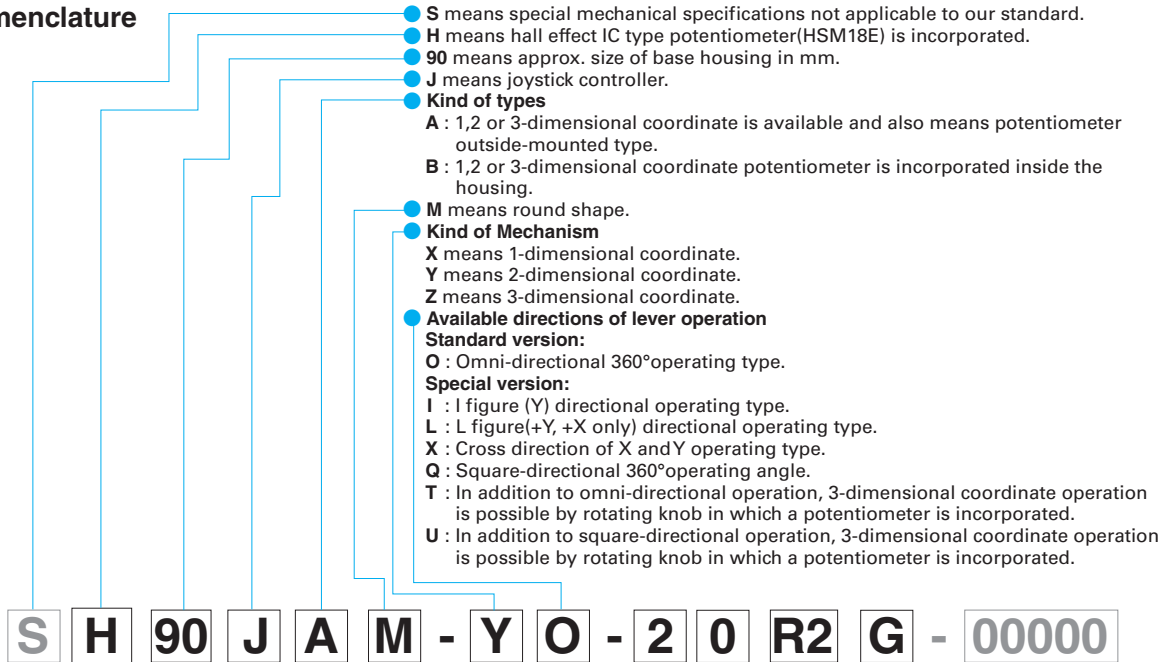


H90JA · H90JB

● H90JA: Potentiometer outside-mounted ● H90JB: Potentiometer incorporated ● With a hall effect IC

Nomenclature



Number of potentiometers to be incorporated

0...no potentiometer incorporated. 1...1 potentiometer incorporated.
 2...2 potentiometers incorporated. 3...3 potentiometers incorporated.

Number of switches to be incorporated

0...no switch incorporated. 1...1 switch incorporated. 2...2 switches incorporated.
 3...3 switches incorporated. 4...4 switches incorporated.
 5...5 switches incorporated. 6...6 and over 6 switches incorporated.
 9...9 Other switches to your special request.

With spring return device:

R1: with spring return device for 1-dimensional coordinate.
R2: with spring return device for 2-dimensional coordinate.
R3: with spring return device for 3-dimensional coordinate.

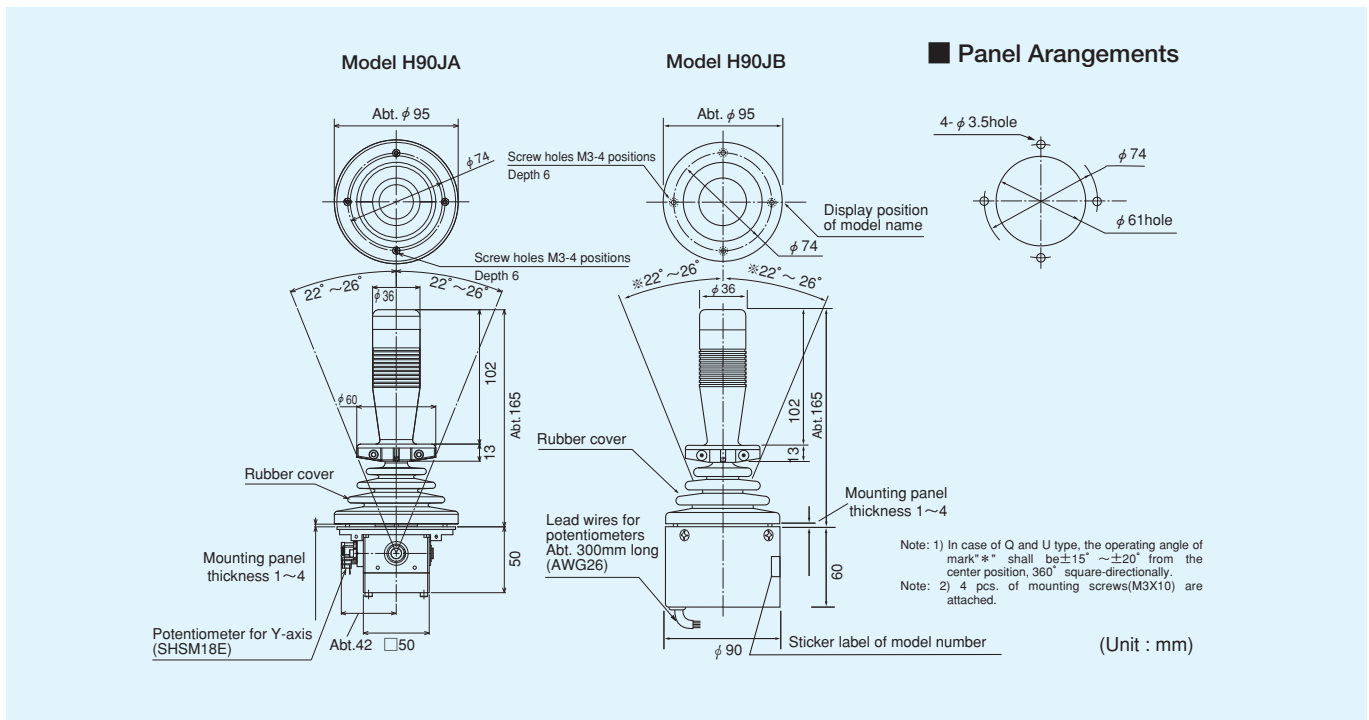
Mounting accessories:

G : with dust proof rubber cover.
P : with sub-panel for mounting.

Special part number:

In case we produce customized product, we add 4-digit or 5-digit branch number.

Standard Dimensions





H90JAM-YO-20R2G
(Standard 2-dimensional coordinate type)



H90JBM-YO-20R2G
(Standard 2-dimensional coordinate type)

STANDARD SPECIFICATIONS

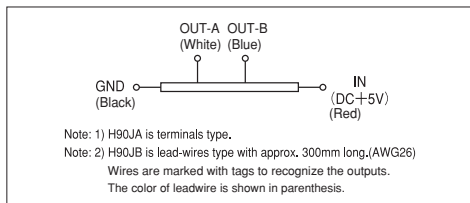
Mechanical Performance

Controlling range of operating lever	<ul style="list-style-type: none"> 2-dimensional coordinate type: Omni-directionally approx. $\pm 22^\circ \sim \pm 26^\circ$ operation from center position. 3-dimensional coordinate type: Approx. $\pm 45^\circ \sim \pm 50^\circ$ operation from center position of knob in addition to the operating range of 2-dimensional coordinate type.
Operating force	Standard spring return device : Automatically return to center (Omni-directional type) X and Y directions: Approx. 2 ~ 12N (200 ~ 1200gf) Z direction: Approx. 20 ~ 85mN · m (200 ~ 850gf · cm)
Operating temperature range	-20°C ~ +65°C
Vibration	10 ~ 55Hz 98m/s ²
Shock	294m/s ²
Mechanical life expectancy	Approx. 10,000,000 operations.
Mass	2-dimensional coordinate type: Approx. 650g 3-dimensional coordinate type: Approx. 750g

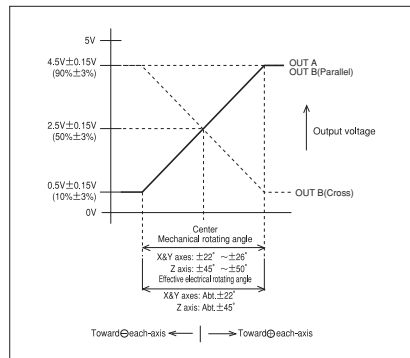
Electrical Performance

Hall effect IC type potentiometer (SHSM18E) incorporated	<ul style="list-style-type: none"> Applied voltage: 5V$\pm 10\%$ D.C. Effective output: Approx. 0.5V ~ 4.5V Electrical rotating angle: X and Y-axis: Approx. $\pm 22^\circ$ Z-axis: Approx. $\pm 45^\circ$ Independent linearity tolerance: $\pm 3\%$FS Load resistance: over 10KΩ
Resolution	Infinitesimal
Dielectric strength	1 minute at 250V.A.C.
Insulation resistance	Over 100M Ω at 250V.D.C.
EMS durability	100V/m (80MHz ~ 1GHz 1KHz sine-wave 80%AM modulation)
ESD durability	± 8 KV contact ± 15 KV aerial discharge (Based on IEC61000-4-2).

Terminal Connection Diagram



Output Characteristic



Special Specifications Available

Please see page 51, a table of "Standard and Special Specifications Available".
Regarding kind of output characteristic, dual cross output or dual parallel output instead of single output is also available.

Special knobs Available

The following versions are available to knob for both models H90JAM and H90JBM.

